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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,884	02/11/2004	Jack J. Reilly	IR3709 NP	3393
31684 7590 11/15/2007 ARKEMA INC. PATENT DEPARTMENT - 26TH FLOOR 2000 MARKET STREET PHILADELPHIA, PA 19103-3222			EXAMINER FERGUSON, LAWRENCE D	
			ART UNIT 1794	PAPER NUMBER
			MAIL DATE 11/15/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/776,884	Applicant(s) REILLY ET AL.	
	Examiner Lawrence D. Ferguson	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 and 32-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 and 32-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment mailed October 30, 2007.
Claims 33-34 were added rendering claims 1-30 and 32-34 pending in this case.

New Matter - 35 U.S.C. 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 33-34 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claims 33 and 34, the phrases, 'each layer has a thickness of greater than .1 millimeter' and "at least one light transmitting layer has a thickness of greater than 1 millimeter" is not supported by the specification. The Examiner was not able to find support for the added limitation discussed above at the cited portions of the specification. There are no layers that have a thickness greater than 100mm, according to the cited portions of the specification. According to claims 33-34, the layers can have thicknesses greater than 100mm.

Claim Rejections – 35 USC § 102(b)

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-21, 23-24, 26-30 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Kito et al. (U.S. 5,585,425).

Kito discloses an article comprising two or more layers fused together (in optical contact) having a colored and transparent layer or colored and opaque layer on a transparent (light transmitting) substrate (column 12, line 46-67 and column 13, lines 14-22) where the colored layer, experiences color changes, as in claim 8. Kito discloses the composition may be colored and transparent by the addition of dye or transparent pigment in column 12 lines 49-52, which gives the colored light transmissive layer a principle color. Kito discloses an undercoat layer and/or topcoat layer can be applied to the article (column 13, lines 40-61) where both are made of methacrylate material (column 13, lines 44-52 and column 14, lines 1-12) as in claims 5 and 12. Colorant can be added to the undercoating and top coating layer (column 14, lines 13-17) and the thermochromatic color layer can be in a transparent state (column 12, lines 46-54) as in claims 6-7. The article is a glass or plastic, with glass or plastic layers (column 21, lines 1-47) comprising acrylic resin and polymethyl methacrylate (column 5, lines 55-65 and column 13, lines 44-52) as in claim 9-11. Kito discloses the article has a

three-dimensional form which is applicable to toys and decorative goods (column 25, lines 1-5) as in claims 28-30. Because Kito discloses an article comprising two or more layers fused together (in optical contact) having a colored and transparent layer on a transparent (light transmitting) substrate with a colored undercoating and top coating, it is inherent for at least one edge of the light transmitting layer to appear different in its color when viewed along the edge, which would change with respect to the viewing angle and appear to be a mix of the transparent colored layer, transparent layer and colored top or undercoating layer(s), as in claims 1-4. Because Kito discloses an article comprising two or more layers fused together (in optical contact) having a colored and transparent layer or colored and opaque layer on a transparent (light transmitting) substrate, the indices of refraction and depth of the article layers are inherent. In claims 19 and 20, the phrases, "by cuts through said layers" and "produced by coextrusion or fusion bonding of said layers" introduces process limitations to the product claims. In claim 23, the phrase, "wherein said two or more layers are coextruded" also introduces a process limitation to the product claim. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966. Further, process limitations are given no patentable weight in product claims.

Claim Rejections – 35 USC § 103(a)

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kito et al. (U.S. 5,585,425).

Kito is relied upon for claim 1 as above. Although Kito does not specifically disclose the thickness as in claims 33-34, thickness is an optimizable feature. In the absence of any evidence to the contrary, it would have been obvious to one of ordinary skill in the art to optimize the layers of the article because discovering the optimum or workable range involves only routine skill in the art. The thickness directly affects the flexibility and durability of the multilayer article. *In re Aller* 105 USPQ 233 and see *In re Boesch*, 617 USPQ 215.

8. Claims 22 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record does not teach or suggest the recited article further including wherein said interlayer material is a liquid having an index of refraction between about 1.05 and 2.0.

The prior art does not teach motivation or suggestion for modification to make the invention as instantly claimed.

Response to Arguments

9. Applicant's arguments of the rejection made under 35 U.S.C. 102(b) as being anticipated by Kito et al. (U.S. 5,585,425) have been considered but are not persuasive. Applicant argues Kito does not disclose an article having two or more layers with a principle color. Kito discloses an article comprising two or more layers fused together (in optical contact) having a colored and transparent layer or colored and opaque layer on a transparent (light transmitting) substrate (column 12, line 46-67 and column 13, lines 14-22) along with a colored undercoating and top coating (column 14, lines 13-17). Applicant further argues Kito does not describe wherein the observed color of the exposed light transmitting layer, when viewed along the edge appears different than its principle color. Because Kito discloses an article comprising two or more layers fused together (in optical contact) having a colored and transparent layer on a transparent (light transmitting) substrate with a colored undercoating and top coating, it is inherent for at least one edge of the light transmitting layer to appear different in its color when viewed along the edge, which would change with respect to the viewing angle and appear to be a mix of the opaque layer and transparent layer. Applicant argues when the thermochromatic composition is transparent it is colorless. Kito discloses the composition may be colored and transparent by the addition of dye or transparent pigment in column 12 lines 49-52, which gives the light transmissive layer a principle

color. Examiner agrees with Applicant that the substrate layer is transparent with no mention of coloring. In response to Applicant's arguments regarding the color of Kito's layers, Kito discloses:

a) a thermochromatic coating that is either opaque and colored or transparent and colored with the addition of transparent pigment (column 12, lines 50-54)

b) a transparent undercoat with colorant (column 13, lines 38-52 and column 14, lines 13-17)

c) a transparent top coat layer with colorant (column 13, lines 53-65 and column 14, lines 13-17).

Therefore, Kito discloses a light transmitting layer having a principle color that inherently appears as a different color when viewed along an edge.

Applicant argues the layers of Kito are so thin as to not present an edge large enough to meet Applicant's claim that the observed color, when viewed along the edge, appear different than the principle color. Because the thermochromatic coating layer is in the range of 2-100 microns.

Although Kito does not specifically disclose the thickness as in claims 33-34, thickness is an optimizable feature. In the absence of any evidence to the contrary, it would have been obvious to one of ordinary skill in the art to optimize the layers of the article because discovering the optimum or workable range involves only routine skill in the art. The thickness directly affects the flexibility and durability of the multilayer article. *In re Aller* 105 USPQ 233 and see *In re Boesch*, 617 USPQ 215. Additionally, there is

also no clear teaching away from the claimed thicknesses of the layers by Kito, as the reference does not exclude any thicknesses for the layers of the article.


Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Ferguson whose telephone number is 571-272-1522. The examiner can normally be reached on Monday through Friday 9:00 AM – 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

L. Ferguson
Patent Examiner
AU 1774



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SUPERVISORY PATENT EXAMINER